

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of:
Robert David ALLEN et al.

Serial No.: Unassigned

Group Art Unit: Unassigned

Filing Date: Concurrently herewith

Examiner: Unassigned

Title: MOLECULAR PHOTORESISTS CONTAINING NONPOLYMERIC
SILSESQUIOXANES

INFORMATION DISCLOSURE STATEMENT

Mail Stop Patent Application
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is an Information Disclosure Statement submitted for the Examiner's consideration. Applicants respectfully request that the Examiner review and make of record the references identified below.

A PTO-1449 form listing the references accompanies this paper. Applicants would appreciate the Examiner's initialing and returning the form to indicate that the references have been reviewed and made of record. The references are as follows:

| U.S. PATENT DOCUMENTS | | |
|-----------------------|-------------------------------|----------------------|
| Document No. | Issue Date / Publication Date | Patentee / Applicant |
| 5,047,492 | 9/10/91 | Weidner et al. |
| 5,338,818 | 8/16/94 | Brunsvold et al. |
| 5,385,804 | 1/31/95 | Premalatha et al. |
| 5,484,867 | 1/16/96 | Lichtenhan et al. |
| 5,723,257 | 3/3/98 | Iwasa |
| 5,942,638 | 8/24/99 | Lichtenhan et al. |
| 6,087,064 | 7/11/00 | Lin et al. |
| 6,100,417 | 8/8/00 | Lichtenhan et al. |
| 6,197,473 | 3/6/01 | Kihara et al. |
| 6,440,550 | 8/27/02 | Hacker |
| 6,472,076 | 10/29/02 | Hacker |
| 6,509,138 | 1/21/03 | Gleason et al. |
| 6,632,582 | 10/14/03 | Kishimura et al. |

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| Document No. | Issue Date / Publication Date | Patentee / Applicant |
| 2002/0090572 | 7/11/02 | Sooriyakumaran et al. |
| 2003/0065101 | 4/3/03 | Blakeney et al. |
| 2003/0099899 | 5/29/03 | Gronbeck et al. |
| 2003/0108812 | 7/12/03 | Rottstegge et al. |

| OTHER DOCUMENTS |
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| FUJITA et al. (1996), "Nanometer-Scale Resolution of Calixarene Negative Resist in Electron Beam Lithography," <i>J. Vac. Sci. Technol. B</i> 14(6):4272-4276. |
| KODAMA et al. (2002), "Synthesis of Novel Fluoropolymer for 157nm Photoresists by Cyclo-Polymerization," <i>Advances in Resist Technology and Processing XIX, Proceedings of SPIE</i> 4690:76-83. |
| KUNZ et al. (2001), "Experimental VUV Absorbance Study of Fluorine-Functionalized Polystyrenes," <i>Advances in Resist Technology and Processing XVIII, Proceedings of SPIE</i> 4345:285-295. |
| MANTZ et al. (1996), "Thermolysis of Polyhedral Oligomeric Silsesquioxane (POSS) Macromers and POSS-Siloxane Copolymers," <i>Chem. Mater.</i> 8(6):1250-1259. |
| NAKAYAMA et al. (1997), "A Negative-Working Alkaline Developable Photoresist Based on Calix[4]resorcinarene, a Cross-Linker, and a Photoacid Generator," <i>Chemistry Letters</i> , pp. 265-266. |
| OCHIAI et al. (1997), "High Resolution EB Lithography on Organic Resists: Molecular Size Effect," <i>Journal of Photopolymer Science and Technology</i> 10(4):641-646. |
| TORIUMI et al. (2002), "Fluoropolymer Resists for 157-nm Lithography," <i>Advances in Resist Technology and Processing XIX, Proceedings of SPIE</i> 4690:191-199. |
| YOSHIMURA et al. (1997), "Effects of Molecular-Weight Distributions of Resist Polymers and Process Control on Lithography for 0.1 μ m and Below," <i>Journal of Photopolymer Science and Technology</i> 10(4):629-634. |

As this application is being filed after June 30, 2003, copies of the U.S. patent documents cited in this Information Disclosure Statement are not included.

This Information Disclosure Statement is not intended as a representation that a search has been made, that additional information material to the examination of this application does not exist, or that any of the above references constitutes prior art to the present application within the meaning of 35 USC § 102.

As this Information Disclosure Statement is being filed concurrently with the application,
no fee is required.

Respectfully submitted,

By:

A handwritten signature in cursive script, appearing to read "Dianne E. Reed", is written over a horizontal line.

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| Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary) | | | | Complete if Known | |
| | | | | Application Number | Unassigned |
| | | | | Filing Date | Concurrently herewith |
| | | | | First Named Inventor | Robert David ALLEN et al. |
| | | | | Art Unit | Unassigned |
| | | | | Examiner Name | Unassigned |
| Sheet | 1 | of | 1 | Attorney Docket Number | ARC920030072US1 |

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| Examiner Initials* | Cite No. | Document No. | Issue Date or Publication Date | Name of Patentee or Applicant of Cited Document | Class | Subclass | Filing Date if Appropriate |
| | AA | 5,047,492 | 9/10/91 | Weidner et al. | | | |
| | AB | 5,338,818 | 8/16/94 | Brunsvold et al. | | | |
| | AC | 5,385,804 | 1/31/95 | Premalatha et al. | | | |
| | AD | 5,484,867 | 1/16/96 | Lichtenhan et al. | | | |
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| | AI | 6,197,473 | 3/6/01 | Kihara et al. | | | |
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| | AN | 2002/0090572 | 7/11/02 | Sooriyakumaran et al. | | | |
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| | AP | 2003/0099899 | 5/29/03 | Gronbeck et al. | | | |
| | AQ | 2003/0108812 | 7/12/03 | Rottstegge et al. | | | |

| OTHER DOCUMENTS — NONPATENT LITERATURE DOCUMENTS | | | |
|--|----------|---|---|
| Examiner Initials* | Cite No. | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), Title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T |
| | AR | FUJITA et al. (1996), "Nanometer-Scale Resolution of Calixarene Negative Resist in Electron Beam Lithography," <i>J. Vac. Sci. Technol. B</i> 14(6):4272-4276. | |
| | AS | KODAMA et al. (2002), "Synthesis of Novel Fluoropolymer for 157nm Photoresists by Cyclo-Polymerization," <i>Advances in Resist Technology and Processing XIX, Proceedings of SPIE 4690</i> :76-83. | |
| | AT | KUNZ et al. (2001), "Experimental VUV Absorbance Study of Fluorine-Functionalized Polystyrenes," <i>Advances in Resist Technology and Processing XVIII, Proceedings of SPIE 4345</i> :285-295. | |
| | AU | MANTZ et al. (1996), "Thermolysis of Polyhedral Oligomeric Silsesquioxane (POSS) Macromers and POSS-Siloxane Copolymers," <i>Chem. Mater.</i> 8(6):1250-1259. | |
| | AV | NAKAYAMA et al. (1997), "A Negative-Working Alkaline Developable Photoresist Based on Calix[4]resorcinarene, a Cross-Linker, and a Photoacid Generator," <i>Chemistry Letters</i> , pp. 265-266. | |
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| | AX | TORIUMI et al. (2002), "Fluoropolymer Resists for 157-nm Lithography," <i>Advances in Resist Technology and Processing XIX, Proceedings of SPIE 4690</i> :191-199. | |
| | AY | YOSHIMURA et al. (1997), "Effects of Molecular-Weight Distributions of Resist Polymers and Process Control on Lithography for 0.1 μ m and Below," <i>Journal of Photopolymer Science and Technology</i> 10(4):629-634. | |

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|--------------------|--|-----------------|--|
| Examiner Signature | | Date Considered | |
|--------------------|--|-----------------|--|

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.